

Name: _____

Date: _____ Period: _____

ECOLOGICAL PYRAMIDS

Directions

1. Shade the first (bottom) level of each pyramid green. Shade the second level of each pyramid yellow. Shade the third level of each pyramid blue. Shade the fourth (top) level of each pyramid red.
 2. Label each level of the first pyramid side with the following terms as you move up the pyramid from bottom to top: producer, primary consumer, secondary consumer, and tertiary consumer.
 3. Label each level of the second pyramid side with the following terms as you move up the pyramid from bottom to top: producers, herbivores, omnivores, and carnivores.
 4. Draw on each level of the third pyramid side an organism that might belong on that level. The first level should have four organisms, second level should have three organisms, third level should have two organisms, and the top level should have one organism drawn on it.
 5. Cut out the organisms and organize them at the appropriate trophic level. Start by gluing all the grass (10,000 blades of grass) onto the first level of the pyramid.
2. Now calculate the correct amount of each of the animals that can be supported at their trophic level, given the following rules: It takes 10,000 plants to feed 1,000 snails. It takes 1,000 snails to feed 100 mice. It takes 100 mice to feed 10 snakes. It takes 10 snakes to feed 1 hawk.
 3. Glue the correct number of animals onto the energy pyramid at their proper trophic level.
 4. In the chart below, record the number of organisms at each trophic level and calculate the ratio of predators to prey.

Trophic level	Name of organisms	Number of organisms	Ratio (predator : prey)
Producers			-----
Primary consumers			1 :
Secondary consumers			1 :
Tertiary consumers			1 :
Quaternary consumers			1 :

Questions

1. Approximately 10 percent of energy stored in an organism is passed on to the next trophic level. Where does the energy that is lost go?

2. In a biomass pyramid why is the greatest amount of mass found at the bottom of the pyramid and the least amount found at the top?

3. Explain why none of the ratios are 1:1. In other words, why does it take more than one prey to feed one predator?

4. Based on the 10% rule, if the first level contains 400 calories of energy, the third level will contain approximately how many calories?
